

CLAIMS:

What is claimed is:

- 1 1. A method comprising:
2 comparing the size of at least a portion of received content to a capacity of a single
3 contiguous location within at least one memory channel to meet a given throughput; and
4 determining whether to distribute the at least portion of received content across the at
5 least one memory channel based, at least in part, on the comparison.
- 1 2. A method according to claim 1, wherein the at least portion of received content is
2 distributed across a plurality of non-contiguous locations within the at least one memory channel
3 if the at least portion of received content exceeds the capacity of a single contiguous location
4 within the at least one memory channel to meet a given throughput.
- 1 3. A method according to claim 1, wherein the at least portion of received content is a
2 packet meta data.
- 1 4. A method according to claim 2, wherein the capacity of the single contiguous location
2 within the at least one memory channel to meet the given throughput is less than 32 bytes.
- 1 5. A method according to claim 4, wherein a memory size of the packet meta data is at least
2 32 bytes.

1 6. A method according to claim 5, wherein the determination to distribute across a plurality
2 of non-contiguous locations within the at least one memory channel is based, at least in part, on
3 whether the packet meta data can be distributed in a way to meet the given throughput.

1 7. A method according to claim 1, wherein the given throughput is communication channel
2 speed.

1 8. A method according to claim 1, wherein the method is implemented in a network
2 processor.

1 9. A method according to claim 1, wherein the determining whether to distribute occurs at
2 start-up.

1 10. A method comprising:
2 accessing at least a portion of received content distributed across at least one memory
3 channel, wherein the at least portion of received content is read simultaneously across the at least
4 one memory channel; and
5 combining the at least portion of received content as if the at least portion of received
6 content were distributed to a single contiguous location within the at least one memory channel.

1 11. A method according to claim 10, further comprising:
2 presenting the at least portion of received content to an agent.

- 1 12. A method according to claim 11, wherein the at least portion of received content is a
2 packet meta data.
- 1 13. A method according to claim 12, wherein the packet meta data includes a packet handle.
- 1 14. A method according to claim 13, wherein the packet handle is 1:1 mapped to the packet
2 meta data distributed across the at least one memory channel to facilitate the accessing of the
3 packet meta data distributed across the at least one memory channel.
- 1 15. A method according to claim 14, wherein combining the packet meta data distributed
2 across the at least one memory channel is accomplished by temporarily storing the recombined
3 packet meta data in local memory.
- 1 16. A method according to claim 15, wherein presenting the packet meta data is
2 accomplished by making the recombined packet meta data, temporarily stored in local memory,
3 available to an agent as if it were a cohesive self-contained unit.
- 1 17. A method according to claim 11, wherein the method is implemented in a network
2 processor.
- 1 18. An apparatus comprising:
2 a memory, including at least one memory channel; and

1 a routing manager, communicatively coupled with the memory, to distribute at least a
2 portion of received content to the at least one memory channel to meet a given throughput.

1 19. An apparatus according to claim 18, wherein the routing manager distributes the at least
2 portion of received content by storing the at least portion of received content in a plurality of
3 non-contiguous locations within the at least one memory channel.

1 20. An apparatus according to claim 18, the apparatus further comprising:
2 a memory to store content, at least a subset of which is executable content; and
3 a control logic, communicatively coupled with the memory, to selectively execute at least
4 a subset of the executable content, to implement an instance of the routing manager.

1 21. An apparatus according to claim 20, wherein the control logic is implemented in a
2 network processor.

1 22. An apparatus according to claim 18, wherein the memory is static random access
2 memory.

1 23. An apparatus comprising:
2 a memory, including at least one memory channel; and
3 an access manager, communicatively coupled with the memory, to read at least a portion
4 of received content from the at least one memory channel and to combine the at least portion of

1 received content as if the at least portion of received content were distributed to a single
2 contiguous location within at least one memory channel.

1 24. An apparatus according to claim 23 wherein the access manager presents the combined at
2 least portion of received content to an agent.

1 25. An apparatus according to claim 23 wherein the at least portion of received content is
2 packet meta data which includes a packet handle, the packet handle 1:1 mapped to the packet
3 meta data.

1 26. An apparatus according to claim 25 wherein the access manager uses the packet handle to
2 locate and read the packet meta data from the at least one memory channel.

1 27. An apparatus according to claim 23, the apparatus further comprising:
2 a memory to store content, at least a subset of which is executable content; and
3 a control logic, communicatively coupled with the memory, to selectively execute at least
4 a subset of the executable content, to implement an instance of the access manager.

1 28. An apparatus according to claim 23, wherein the control logic is implemented in a
2 network processor.

1 29. An apparatus according to claim 23, wherein the memory is static random access
2 memory.

1 30. A system comprising:
2 a memory, including at least one memory channel; and
3 a routing manager, coupled with the memory to selectively distribute at least a portion of
4 received content to the at least one memory channel based, at least in part, on whether the at least
5 portion of received content exceeds a capacity of a single contiguous location within the at least
6 one memory channel to meet a given throughput.

1 31. A system according to claim 30, wherein the routing manager distributes the at least
2 portion of received content by storing the at least portion of received content in a plurality of
3 non-contiguous locations within the at least one memory channel.

1 32. A system according to claim 30, wherein the capacity of a single contiguous location
2 within the at least a single memory channel is less than 32 bytes.

1 33. A system according to claim 30, wherein the routing manager is implemented in a
2 network processor.

1 34. A system according to claim 30, wherein the memory is static random access memory.

1 35. A storage medium comprising content, which, when executed by a machine, causes the
2 machine to:

3 compare the size of at least a portion of received content to a capacity of a single
4 contiguous location within at least one memory channel to meet a given throughput; and
5 determine whether to distribute the at least portion of received content across the at least
6 one memory channel, based at least in part, on the comparison.

1 36. A storage medium according to claim 35, wherein the at least portion of received content
2 is distributed across a plurality of non-contiguous locations within the at least one memory
3 channel if the at least portion of received content exceeds the capacity of a single contiguous
4 location within the at least one memory channel to meet a given throughput.

1 37. A storage medium according to claim 36, wherein the at least portion of received content
2 is packet meta data.

1 38. A storage medium according to claim 37, wherein the capacity of the single contiguous
2 location within the at least one memory channel to meet the given throughput is less than 32
3 bytes.

1 39. A storage medium according to claim 38, wherein a memory size of the packet meta data
2 is at least 32 bytes.

1 40. A storage medium according to claim 39, wherein the determination to distribute across a
2 plurality of non-contiguous locations within the at least one memory channel is based, at least in
3 part, on whether the packet meta data can be distributed in a way to meet the given throughput.

1 41. A storage medium according to claim 35, wherein the given throughput is
2 communication channel speed.

1 42. A storage medium comprising content, which, when executed by a machine, causes the
2 machine to:
3 access at least a portion of received content distributed across at least one memory
4 channel, wherein the at least portion of received content is read simultaneously across the at least
5 one memory channel; and
6 combine the at least portion of received content, as if the at least portion of received
7 content was distributed to a single contiguous location within the at least one memory channel.

1 43. A storage medium according to claim 42, further comprising:
2 presenting the at least portion of received content to an agent.

1 44. A storage medium according to claim 43, wherein the at least portion of received content
2 is a packet meta data

1 45. A storage medium according to claim 44, wherein the packet meta data includes a packet
2 handle.

1 46. A storage medium according to claim 45, wherein the packet handle is 1:1 mapped to the
2 packet meta data distributed across the at least one memory channel to facilitate the accessing of
3 the packet meta data distributed across the at least one memory channel.

1 47. A storage medium according to claim 46, wherein combining the packet meta data
2 distributed across the at least one memory channel is accomplished by temporarily storing the
3 recombined packet meta data in local memory.

1 48. A storage medium according to claim 47, wherein presenting the packet meta data is
2 accomplished by making the recombined packet meta data, temporarily stored in local memory,
3 available to an agent as a cohesive self-contained unit.